

C&I Smart String Hybrid Cooling Energy Storage Warranty Service Terms

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1 Applicable Product Model

- LUNA2000-215-2S10

The industrial and commercial Hybrid cooling energy storage solution mainly consists of the smart string energy storage system (ESSs for short), smart PV module (optimizer), and Smart PCS. It is applicable to industrial and commercial scenarios. The industrial and commercial Hybrid cooling energy storage solution uses the AC coupling solution to connect to the power grid. When the power grid needs to be output, the Smart PCS outputs the stored battery energy to loads for use.

Figure1-1 Low-voltage grid connection of C&I hybrid cooling ESS through AC coupling in PV+ESS scenarios

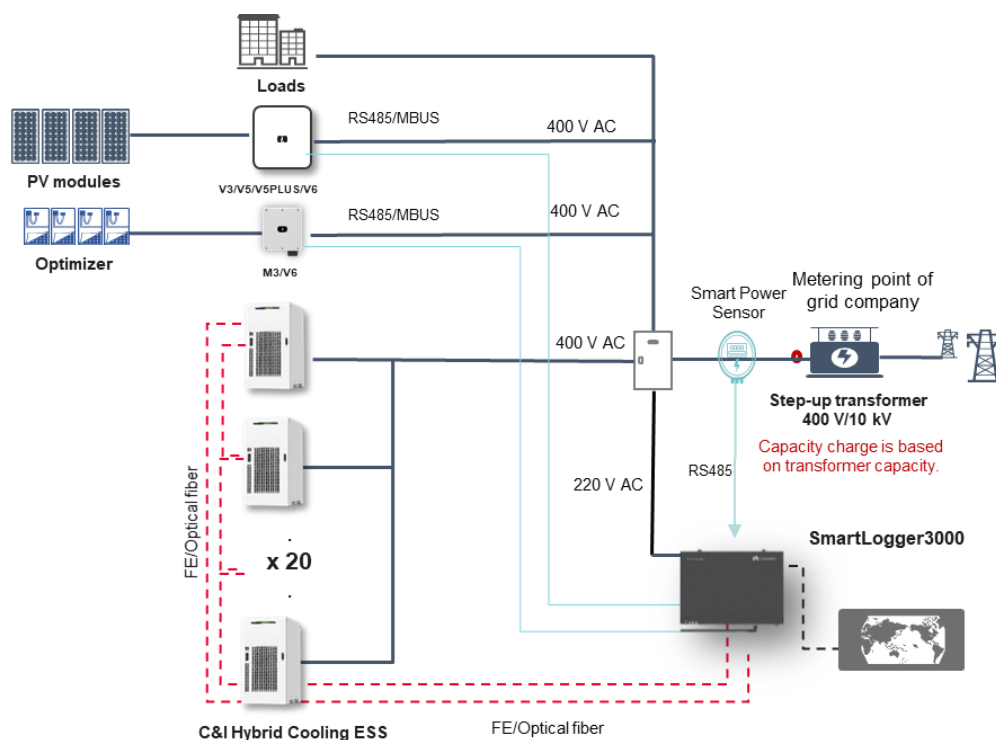
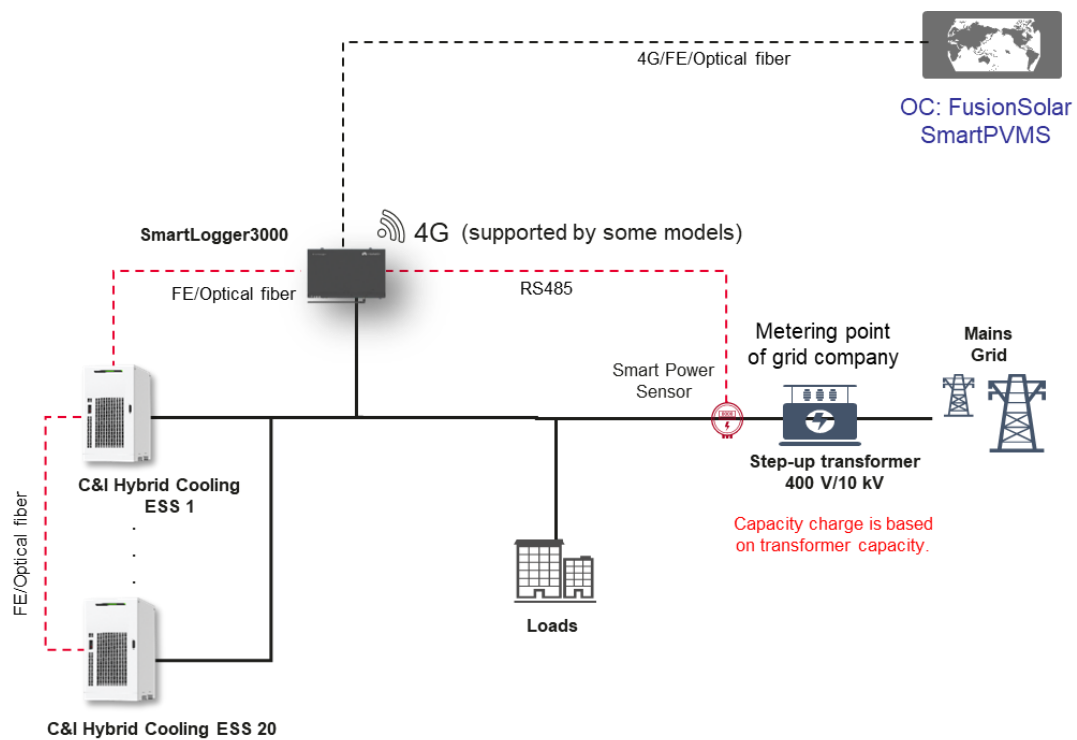


Figure1-2 Low-voltage grid connection of C&I hybrid cooling ESS through AC coupling in ESS scenarios



2 Warranty Scope

2.1 Performance warranty

Performance warranty defined for the ESS: 100% DOD, operating temperature range of -30°C ~ $+40^{\circ}\text{C}$, The number of cycles is defined according to the working conditions of each area. For details, see Table 2-1 Quality Assurance Standards for Typical Working Conditions of the Energy Storage System.

The performance warranty of the battery of the energy storage system is based on the ten-year warranty period and the number of cycles. The one that reaches the warranty first takes effect, and the warranty expires.

Energy storage warranty includes product warranty and performance warranty, which are provided separately.

Capacity test conditions: At an ambient temperature of $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$, drain batteries, charge the batteries at 0.5 CP to 100% SOC, discharge the battery at 0.5 CP to the discharge end voltage, test the charge and discharge cycles for three times, and record the average discharge capacity of the three times. For details about the capacity test method and procedure, contact Huawei technical support.

The ESS must be continuously connected to the Huawei PV cloud and remotely upgraded to the latest firmware version in a timely manner to ensure the service life of electrochemical cells. For energy storage products that are not connected to Huawei PV cloud, the electrochemical cell damage caused by the failure to upgrade in time will not be covered by the warranty.

Table 2-1 Performance warranty standards for the ESS under typical working conditions

Region	Type	Number of PACK	Ambient temperature	Charge and Discharge Coefficient	Loop Count @60%SOH	Typical Working Conditions
Non-China	LUNA2000-215-2S10	4	-30°C ~ $+40^{\circ}\text{C}$	0.5CP	7300	≤ 2 cycles per day

2.2 Product warranty

The warranty of energy storage system products is divided into basic warranty and advanced warranty. After the device is delivered, the basic warranty is automatically obtained. After the device is continuously connected to Huawei PV cloud or purchase Huawei offline inspection for five years (ten-year in Europe), the advanced warranty is obtained.

Table 2-2 Basic warranty period of each product series (year)

Category	Device	Europe	China	Middle East and Central Asia	Asia Pacific	Latin America	Southern Africa	Northern Africa	Class B
Devices	Smart String ESS	2	2	2	2	2	2	2	2
Auxiliary products	SACU/SmartLogger	1	1	1	1	1	1	1	1

The following auxiliary materials and mechanical parts are not covered by the warranty(For details about the warranty list, see the spare parts list.):

Category	Description
Consumables	Including but not limited to cables, door locks, lamps and small batteries (Small batteries other than battery pack)
Cables	Cables between cabinets
Mechanical parts	Including but not limited to battery installation racks and other mechanical parts
Accessories for battery cabinets	Including but not limited to cabinet mechanical parts, documents, product accessories, installation accessories, and tools

After C&I Hybrid cooling ESSs are continuously connected to the Huawei PV cloud or purchase five-year (ten-year in Europe) offline inspection, the advanced warranty will be obtained. (Europe equipment warranty: 2 years basic warranty + 8 years advanced warranty; other regions: 2 years basic warranty + 3 years advanced warranty; accessories warranty: 1 year basic warranty + 1 year advanced warranty). The details are as follows:

Table 2-3 Advanced warranty period of each product series (year)

Category	Device	Europe	China	Middle East and Central Asia	Asia Pacific	Latin America	Southern Africa	Northern Africa	Class B
Devices	Smart String ESS	8	3	3	3	3	3	3	3
Auxiliary products	SACU/SmartLogge	1	1	1	1	1	1	1	1

The following auxiliary materials and mechanical parts are not covered by the warranty(For details about the warranty list, see the spare parts list.):

Category	Description
Consumables	Including but not limited to cables, door locks, lamps
Cables	Cables between cabinets
Mechanical parts	Including but not limited to battery installation racks and other mechanical

	parts
Accessories for battery cabinets	Including but not limited to cabinet mechanical parts, documents, product accessories, installation accessories, and tools

Table 2-4 Warranty period start dates

Start Date	Europe	China	Middle East and Central Asia	Asia Pacific	Latin America	Southern Africa	Northern Africa	Class B
The warranty period starts 90 days after the shipment date of Huawei products, or 90 days or POD (whichever is earlier)—Applicable to direct-sales products	✓	✓	✓	✓	✓	✓	✓	✓
The warranty period starts 180 days after the shipment date of Huawei products, or from the day when the customer/partner requires the start date of special service such as PAC (whichever is earlier)—Applicable to distribution products	✓	✓	✓	✓	✓	✓	✓	✓

NOTE

1. If the warranty period of equipment starts from the shipment date, this item must be specified in the contract.
2. For channel sales projects, channel partners must complete necessary ESS capability certification.
3. For channel distribution projects, channel partners are responsible for notifying customers of technical requirements such as transportation, storage, site selection, installation space, and foundation construction requirements. Such content must be included in the contract. Huawei will not be responsible for any problems caused by ignorance of the preceding requirements.
4. The spare parts of the ESS are replaced by parts replacement, which does not affect the warranty period of the entire system.
5. The warranty period of spare parts such as the SmartLogger complies with the original rules of the region.
6. For lead-acid battery consumables, Huawei provides only the first sample for deployment and does not provide spare parts. If lead-acid batteries are damaged, customers can purchase them locally. The specifications of lead-acid batteries are described in the maintenance manual.
7. The warranty strategy differs depending on the location environments of the C&I ESSs, (the location must meet at least the C4 environments) not accounting for the distance from the sea. C&I ESSs installed in C1 to C4 environments are entitled to warranty services, please refer to the user manual, quick guide, maintenance manual and other materials for the equipment site selection, installation and maintenance requirements. C&I ESSs must not be installed in the C5 environments, and warranty services are not provided for ESSs installed in such environments.
8. For projects whose corrosion level is C5, contact the product line to review project risks before placing an order. For details, see the C5 Environment Application Description for Industrial and Commercial Energy Storage Cabinets.
9. In the C5 scenario, the cabinet gap needs to be expanded for maintenance and painting. The cabinet spacing requirements are as follows: The distance between the back of the cabinet and the firewall is 1 m, the distance between the left and right of the cabinet is 0.6 m, and the distance between the back of the cabinet is 0.6 m.
10. The devices of ESS deployed in the C5 scenario can obtain a maximum of five years of standard warranty service. (2 Yr Basic Warranty + 3 Yr Advanced Warranty) 5 years extended warranty service. The service life of the product is increased by 5 years from the service life of the product (standard warranty + extended warranty).

11. In the C5 scenario, it is recommended that the service life of a product not exceed the service life committed by Huawei. If the service life of a product exceeds the service life committed by Huawei, Huawei is not liable for any device problem.
12. In the C5 scenario, all energy storage devices must be connected to Huawei PV cloud.
13. Within the battery cabinet lifecycle, the following services must be configured: inspection and paint repair service, 5-year proactive component replacement package, and 10-year proactive component replacement package.

Table 2-5 Standard warranty services

Category	Service	Description
Remote technical support	Hotline service	24 x 7 The SLA signed in the contract is subject to the information provided by the Digital Energy Global Service Hotline. https://digitalpower.huawei.com/cn/contact.html
	Remote troubleshooting	China: 12x7 Other countries outside China: 9x5
	Online technical support	24x7
Software support	Software update authorization	24x7
Hardware support	Spare parts return for repair	/
	Pre-replacement of spare parts (Non-hazardous)	9x5x2BD-S
	Spare parts replacement (hazardous)	9x5x2BD-S For countries or regions where dangerous goods (such as batteries and fire cylinders) cannot be delivered, the spare parts response time must be separately specified in the contract. For details about the spare parts delivery time, consult the regional spare parts contact person. For details, see the SLA policy table below.
On-site support	Onsite Hardware Replacement	/
	Onsite fault diagnosis	/
	On-site spare parts recovery	√

Table 2-6 Regional lithium battery spare parts service SLA strategy

Reginal	Europe	China	Middle East and Central Asia	Asia Pacific	Latin America	Southern Africa	Northern Africa	Class B
Battery spare parts and fire extinguishing module with gas	2BD-S**	No Commitment	No Commitment	2BD-S**	2BD-S**	2BD-S**	No Commitment	No Commitment

NOTE

- 24/7: Monday to Sunday, 00:00 – 24:00
- 12x7: Monday to Sunday, 8:00 to 20:00 (all days, all holidays)
- 9/5: business days, 9:00 – 18:00, excluding public holidays
- BD: business day
- 2BD-S: Huawei ships spare parts within two business days after confirming the necessity of hardware replacement and receiving the RMA information.
- **: 12 countries in Europe (Czech, France, Germany, Italy, Netherlands, Poland, Slovakia, Spain, Turkey, Switzerland, United Kingdom, Ireland), 10 countries in Latin America (Paraguay, Uruguay, Brazil, Guatemala, Jamaica, Nicaragua, Dominica, Mexico, Chile, Peru), 5 countries in Asia Pacific (Indonesia, Thailand, Malaysia, Singapore, philippines) , South Africa Can promise 2BD-S.
- The standard warranty does not include onsite services, which need to be purchased separately.
- The preceding table is for reference only because the lithium battery spare parts capability is being continuously developed. Regions and rep offices need to confirm the local SLA capability with the local spare parts platform. For details, see the frontline evaluation

3

Warranty Period Description

3.1 General Description of Warranty Period

Rules for starting warranty for C&I Hybrid cooling ESSs: The warranty period starts 90 days after Huawei shipment or the date when the customer applies for warranty triggering (not later than 90 days after shipment).

Huawei provides the warranty extension service. The customer can purchase the 5-year warranty only when the PV plant is continuously connected to Huawei PV cloud or offline inspection is purchased.

In principle, the product warranty period must be continuous from the date of purchase. Otherwise, extension warranty is not supported.

The warranty extension time of each sub-component is as follows:

Category	Device	Europe	China	Middle East and Central Asia	Asia Pacific	Latin America	Southern Africa	Northern Africa	Class B
Devices	Smart String ESS	0	5	5	5	5	5	5	5
Auxiliary products	SmartLogger	Identical warranty periods as those of the ESSs are supported.							

NOTE

- The extended warranty for C&I Hybrid cooling ESSs can be purchased within the warranty period. If the extended warranty is purchased in addition to the advanced warranty, the maximum total warranty period is 10 years.

3.2 Warranty Service Description

3.2.1 Overall situation

Category	Service	Description
Remote technical support	Hotline service	24 x 7 The SLA signed in the contract is subject to the information provided by the Digital Energy Global Service Hotline.

Category	Service	Description
		https://digitalpower.huawei.com/cn/contact.html
	Remote troubleshooting	China: 12x7 Other countries outside China: 9x5
	Online technical support	24x7
Software support	Software update authorization	24x7
Hardware support	Spare parts return for repair	/
	Pre-replacement of spare parts (Non-hazardous)	9x5x2BD-S
	Spare parts replacement (hazardous)	9x5x2BD-S For countries or regions where dangerous goods (such as batteries and fire cylinders) cannot be delivered, the spare parts response time must be separately specified in the contract. For details about the spare parts delivery time, consult the regional spare parts contact person. For details, see the SLA policy table below.
On-site support	Onsite Hardware Replacement	/
	Onsite fault diagnosis	/
	On-site spare parts recovery	√

Terminology:

- 9x5: weekdays, 9:00 - 18:00, excluding legal holidays.
- 24x7: Mon-Sun, 00:00 - 24:00.
- 12x7: Monday to Sunday, 8:00 to 20:00 (all days, all holidays)
- BD: Business Day (Workday)
- 2BD-S: Huawei shall issue spare parts within two days after Huawei confirms that it is necessary to replace the hardware and provides the RMA number.

3.2.2 Spare Parts Service Description

- By default, spare parts for industrial and commercial Hybrid cooling energy storage products are parts replacement. For replaceable parts, see the Support-E Spare Parts List.
- The performance of the spare parts provided by Huawei is not lower than that of the faulty equipment provided by the customer. Do not promise customers that all spare parts are new devices or identical parts.
- For spare parts of dangerous goods such as batteries and pressure cylinders, the standard quality assurance documents in the industry generally do not promise the delivery SLA of such spare parts. If the delivery SLA of such spare parts is beyond the service SLA, the local spare parts platform shall evaluate the delivery SLA based on the warehousing and logistics capabilities of specific countries.
- The basic extended warranty does not include onsite service. If onsite problem handling is required, the single onsite service must be purchased separately.

- The extended warranty service content is the same as the standard warranty service content. The extended warranty service cannot be sold in regions where the extended warranty service cannot be implemented.
- If the customer does not purchase the basic extended warranty service, services such as spare parts are not provided for the customer's devices by default.

3.2.3 Remote Support Services

Remote technical support refers to the technical support provided by Huawei by telephone or email for Huawei product problems. Including Huawei hotline, remote technical support, and online technical support, multi-channel technical support.

Hotline

Receives and tracks service requests based on the service interface platform.

For details about the hotline number, see the official Huawei Digital Power website. If there is no hotline in a country, please contact the hotline of a neighboring country.

Email: Services vary by region, please refer to the publicity of official website.

Remote technical support

Including technical consultation and problem handling. Technical consultation refers to the technical guidance for non-actual problems. Problem handling refers to provides solutions to customers within the promised service time for product-related problems.

Online Technical Support

Huawei provides website access support services. Customers can log in to (<https://solar.huawei.com/cn>), and provide O&M experience introduction, cases, and technical documents related to products.

Multi-channel support

Customers can add Huawei Digital Energy official account on the multimedia platform to obtain more technical support information.

3.2.4 Software Support Services

If necessary, Huawei provides software update guidance services for customers free of charge within the warranty period.

Huawei guarantees that the Products are in good operation, but does not guarantee that the Software is error-free or uninterrupted, nor that Huawei will correct all program errors.

3.2.5 Hardware Support Services

Hardware is a prerequisite for the stable running of the ESS. Huawei hardware support service ensures the stable operation of the ESS.

4 Warranty clause

4.1 Basic Provisions

During the warranty period, Huawei promise as follows:

- 4.1.1 Provide replacement service when normal functions cannot be used due to defects in materials, manufacturing or workmanship.
- 4.1.2 Provide replacement service when normal functions cannot be used due to non-compliance with published product specifications.
- 4.1.3 Huawei spare parts (excluding batteries) shall be delivered within two working days after the service request is confirmed. After receiving the spare parts, the asset ownership of the faulty parts will be transferred to Huawei. The customer shall return the faulty parts to Huawei within 15 working days. If the faulty parts cannot be returned, the customer must compensate Huawei for the loss.
- 4.1.4 If Huawei provides spare parts in the order, the customer is not allowed to sell the spare parts to third parties or use them for other purposes.
- 4.1.5 Spare parts provided by Huawei are equivalent to those used by customers on site.
- 4.1.6 After Huawei provides spare parts, the system warranty period inherits or is not shorter than the warranty period in the original contract.
- 4.1.7 Onsite engineering operations are completed by the customer, and Huawei is not responsible for onsite replacement.
- 4.1.8 After the spare parts request is confirmed, Huawei is responsible for the transportation of spare parts within the warranty period.
- 4.1.9 If a product fault is found within the warranty scope, the customer should contact Huawei hotline to report the fault and provide the following information:
 - 1. Brief description of the fault, including but not limited to input and output parameters, alarm ID, cause ID, and run logs.
 - 2. Product serial number.
 - 3. Purchase receipt.

The above information is the condition for reporting faults.

4.1.10 If the customer does not provide sufficient information or the spare parts are replaced without Huawei's confirmation when the actual equipment is free of fault, the customer shall bear the freight.

4.2 Exception clause

4.2.1 The preceding support services are only applicable to Huawei-produced equipment. The hardware equipment beyond the agreed scope is not covered by Huawei's service scope.

4.2.2 In all cases, whether on the basis of contract, warranty, tort (including liability for fault and strict liability) or any other theory and legal claim, Huawei does not assume any liability for any consequences arising from the installation, use, or poor performance of its products, any indirect loss, collateral damage, or punitive damages arising from any defect or breach of warranty, including, but not limited to, loss of profits, damage to goodwill or business reputation, or loss of delay. The total amount of Huawei's responsibility for damages or otherwise shall not exceed the purchase price paid by the original Buyer for the Products.

4.2.3 Huawei commercial and industrial hybrid cooling energy storage systems have a two-year basic warranty by default. A advanced warranty can be provided only when they are continuously connected to Huawei PV cloud or purchasing for five-year(ten-year in Europe) offline inspection.If the customer fails to connect to Huawei management system for more than six months, Huawei has the right to cancel the advanced warranty.

4.2.4 Widely used vulnerable parts and consumables are not covered by Huawei's service scope.

4.2.5 If Huawei cannot fulfill the service commitment within the promised time due to non-Huawei reasons, the customer shall exempt Huawei from the SLA fulfillment responsibilities and relevant compensations. If on-site services are required, travel time shall be excluded from SLA time.

4.2.6 Faults caused by the following reasons are not covered by Huawei's service scope:

- Damages to Huawei devices due to force majeure, such as natural disasters, fires, and wars
- Damages to Huawei devices due to normal wear and tear
- Direct damages caused by failure to comply with the written requirements on the operating environment or external electrical specifications
- AC or DC connectors broken, damaged, or burnt due to the poor engineering quality of the connectors
- Damages caused by lightning due to improper system design
- Large-scale damages to Huawei hardware or data due to customer's negligence, improper operation, or intentional sabotage
- Damages caused by customer's failure to transport, store, install and operate Huawei products in accordance with the user manuals
- ESS performance degradation caused by leaving idle batteries uncharged for 6 months or longer, or battery cell damages caused by leaving batteries uncharged for extended periods, which will not be covered by the warranty
- Damages caused by improper operation or failure to comply with the temperature requirements during transportation or operation
- Damages caused by maintenance or other services performed by personnel not authorized by Huawei
- System damages caused by improper operations of a third party or customer, including system migration and installation performed in violation of Huawei's requirements, and adjustment, alteration, and removal of identification signs performed in violation of Huawei's requirements
- System damages caused by customer's infrastructure problems

- To ensure the lifespan of battery cells, the firmware needs to be remotely upgraded to the latest version. The ESS must be connected to Huawei PV Cloud. Battery cell damages caused by outdated firmware due to the customer's failure to connect the ESS to Huawei's management system, which will not be covered by the warranty
- Failure to install or operate Huawei equipment, project scenarios, third-party equipment, etc. in compliance with the conditions, requirements or restrictions in Huawei solutions documents.